

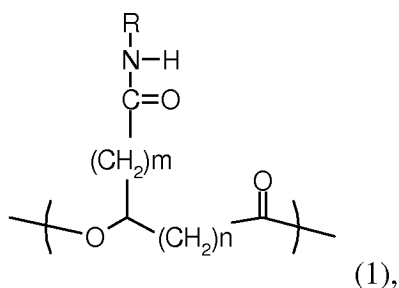
C. Remarks

The claims are 1-15, with claims 1, 3, 4, and 6-15 being independent.

Claims 2-4 and 6-15 have been withdrawn from consideration as being directed to non-elected subject matter. Claims 1 and 5 have been amended solely as to form. Non-elected claim 2, which depends from claim 1 and is subject to rejoinder upon allowance of claim 1, has also been amended solely as to form. No new matter has been added. Reconsideration of the present claims is expressly requested.

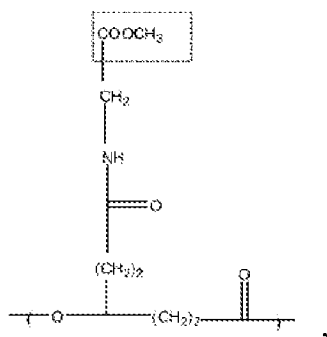
Claim 1 stands rejected under 35 U.S.C. 103(a) as being allegedly obvious from U.S. Patent No. 6,083,729 (Martin) in view of EP 1 336 635 A1 (Kenmoku). Claim 5 stands rejected under 35 U.S.C. 103(a) as being allegedly obvious from Martin in view of Kenmoku and U.S. Patent Application Publication No. 2003/0088052 A1 (Yamane). The grounds of rejection are respectfully traversed.

The presently claimed invention, in pertinent part, is related to a polyhydroxyalkanoate (PHA) comprising at least a unit represented by a chemical formula (1) within its molecule:



where R is $-A_1-SO_2R_1$.

Martin is directed to methods for isolating PHAs from plants. The Examiner alleged that claim 4 in this reference discloses a species of the following formula B:



and that it would have been obvious to replace the COOCH_3 group in this formula with a sulfonyl unit based on the disclosure in Kenmoku, particularly at paragraph [0008] and page 8, because the sulfonyl unit as claimed is allegedly taught to provide improved melt processability. Applicants respectfully disagree.

Initially, Applicants respectfully submit that Martin does not disclose or suggest the above-mentioned species of structural formula B identified in the Office Action. Claim 4, to which the Examiner referred for supporting this structure, discloses that a PHA structure, which is separated from plant biomass, has one or more units represented by formula $-\text{OCR}^1\text{R}^2(\text{CR}^3\text{R}^4)_n\text{CO}-$. In this formula, n is 0 or an integer and R^1 , R^2 , R^3 and R^4 each are independently selected from the group consisting of hydrocarbon radicals, halo- and hydroxy-substituted radicals, hydroxy radicals, halogen radicals, nitrogen-substituted radicals, oxygen-substituted radicals, and hydrogen atoms. In essence, such a formula encompasses thousands of possible compounds, yet the Examiner

selected 2 for n, hydrogen atoms for R³ and R⁴, and H and $-(CH_2)_2CONHCH_2COOCH_3$ for R¹ and R². While such selections are encompassed by the generic formula in claim 4 of Martin, Applicants respectfully submit that there is no suggestion that would lead one skilled in the art to make the selections as indicated in the Office Action from thousands of possible choices and no actual specificity as to the substituents beyond the generic references.

As stated in the M.P.E.P., “[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious.” M.P.E.P. § 2142. The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. *Id.* M.P.E.P. 2142 also highlights that the Supreme Court in *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. §103 should be made explicit. The Federal Circuit has stated that “rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 78 U.S.P.Q.2d 1329, 1336 (Fed. Cir. 2006); *see KSR*, 82 U.S.P.Q.2d at 1396 (quoting the Federal Circuit statement with approval).

The Examiner concluded that claim 4 in Martin discloses the above-reproduced species of formula B. No reasons are provided as to how or why the generic structure in this claim discloses such a species. Therefore, Applicants respectfully submit

that the Examiner has not met the required legal burden of showing why a skilled artisan would select R¹, R², R³ and R⁴ as alleged in the Office Action.

Applicants respectfully submit that Martin does not disclose or suggest the above-recited formula B. As a matter of law, “[a] reference must be considered not only for what it expressly teaches, but for what it fairly suggests.” *In re Baird*, 29 U.S.P.Q.2d (BNA) 1550, 1552 (Fed. Cir. 1994); *In re Bruckel*, 201 U.S.P.Q. (BNA) 67, 70 (C.C.P.A. 1979). A disclosure of a vast number of compounds does not automatically render a claim obvious. *See In re Baird* at 1552.

This is exactly the situation in the present case. Martin provides a myriad of generic pieces for a jigsaw puzzle without teaching or suggesting the picture or which specific pieces are necessary to complete it. “[T]o arrive at the claimed subject matter, it [would be] necessary to select . . . values for variable substituents to interpolate into a generic structural formula to arrive at a specific compound.” *Ex Parte A*, 17 U.S.P.Q.2d (BNA) 1716, 1718 (Bd. Pat. App. & Inter. 1990) (footnote omitted). This is not sufficient to show obviousness.

At most, Martin refers to PHAs having known units, such as 3-hydroxy butyric acid, 3-hydroxy valeric acid, 3-hydroxy hexanoic acid, 3-hydroxy heptanoic acid, 3-hydroxy octanoic acid, 3-hydroxy nonanoic acid, 3-hydroxy decanoic acid, and 4-hydroxy butyric acid, trans-2-butenic acid (crotonic acid). There is no guidance or reasons for one skilled in the art to select the substituents to arrive at formula B.

Furthermore, claim 4 in Martin recites a method for isolating a PHA from a plant biomass source. Therefore, the disclosure of the PHA structure is strictly linked to a plant source. The Examiner has not shown, nor is Martin understood to disclose, any plant source, which would be capable of providing formula B.

Neither Kenmoku nor Yamane provides the teachings missing in Martin. Regardless of whether Kenmoku suggest the use of a sulfone group to improve melt processability, there is no structure of formula B disclosed or suggested by Martin to modify, as discussed above. Yamane was cited for the disclosure of a different monomer unit in connection with claim 5, which is not relevant to the analysis of alleged formula B or the monomer recited in present claim 1.

In conclusion, Applicants respectfully submit that Martin, Kenmoku, and Yamane, whether considered separately or in any combination, fail to disclose or suggest all of the presently claimed elements. Thus, the outstanding rejections should be withdrawn and the claims should be allowed.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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